VIDEO OUT

GRAPHICS
SYNTHESISER
200

EMOTION ENGINE
100

RDRAM
500

AUDIO OUT

SOUND
PROCESSOR
UNIT
300

IOP
700

RAM
750

CD/DVD DISCS

DVD/CD
450

ROM
400

HDD
800

FIGURE 1

FIGURE 2

FIGURE 3

252

254

256

TEXTURE
DATA

→

TEXTURE
MAPPING

FOGGING

ANTI-
ALIASING

PIXEL TEST
ALPHA TEST
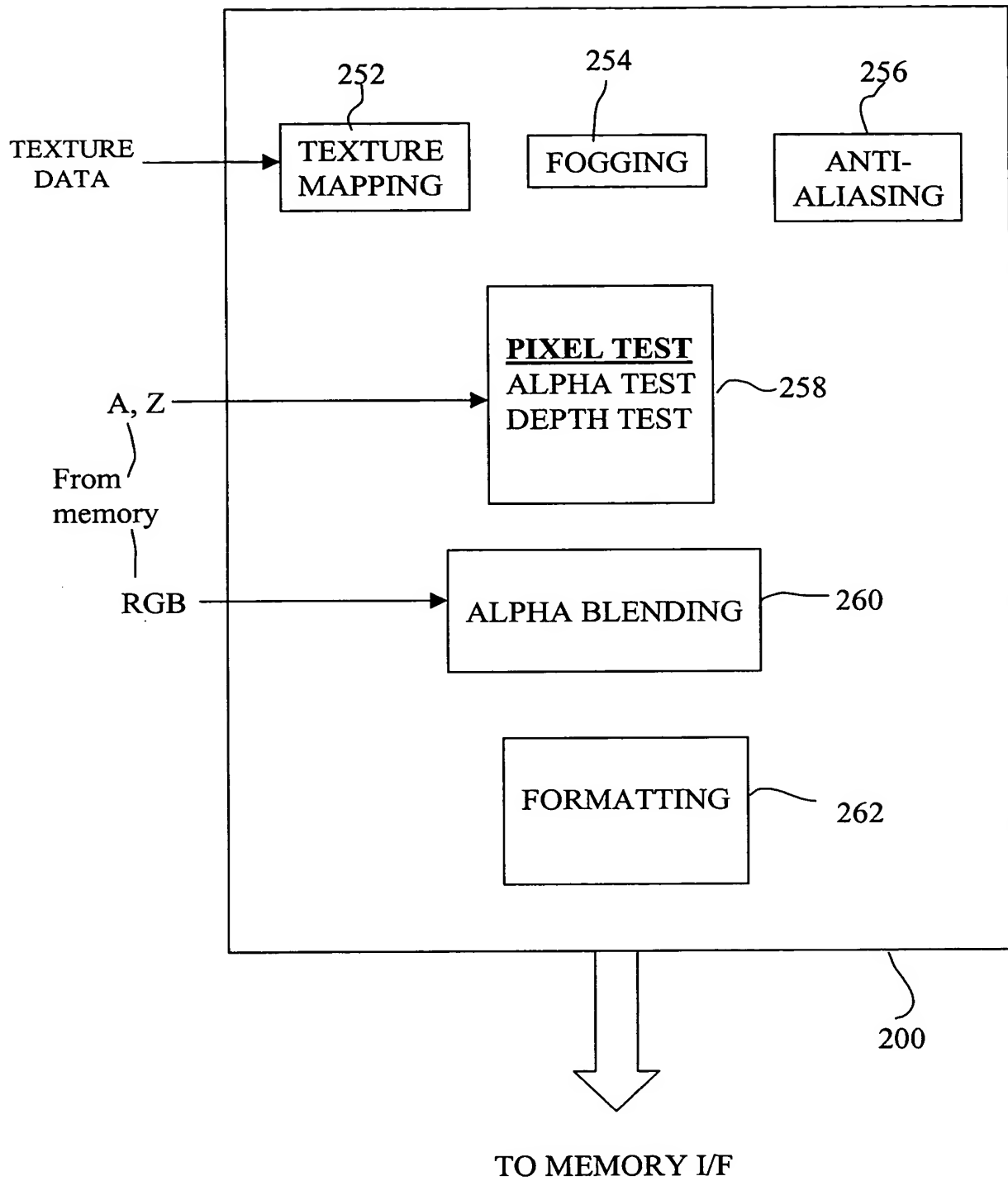DEPTH TEST

258

A, Z

→

From
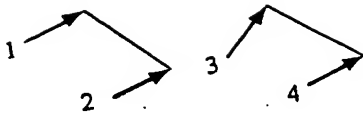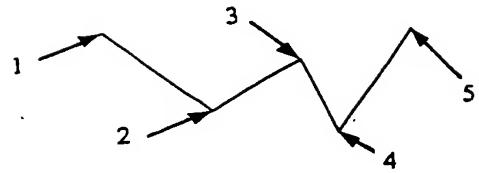memory

RGB

→
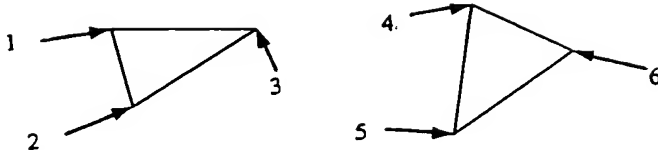
ALPHA BLENDING

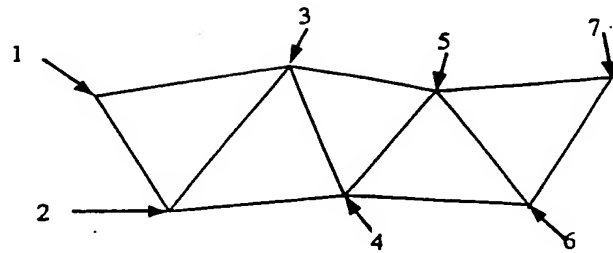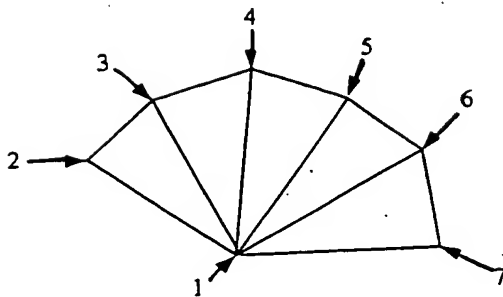260

FORMATTING

262

200

TO MEMORY I/F

FIGURE 4

FIG 5A

FIG 5B

FIG 5C

FIG 5D

FIG 5E

FIG 5F

FIG 5G

FIGURE 6

FIGURE 7

1330

1340

PCI CARD
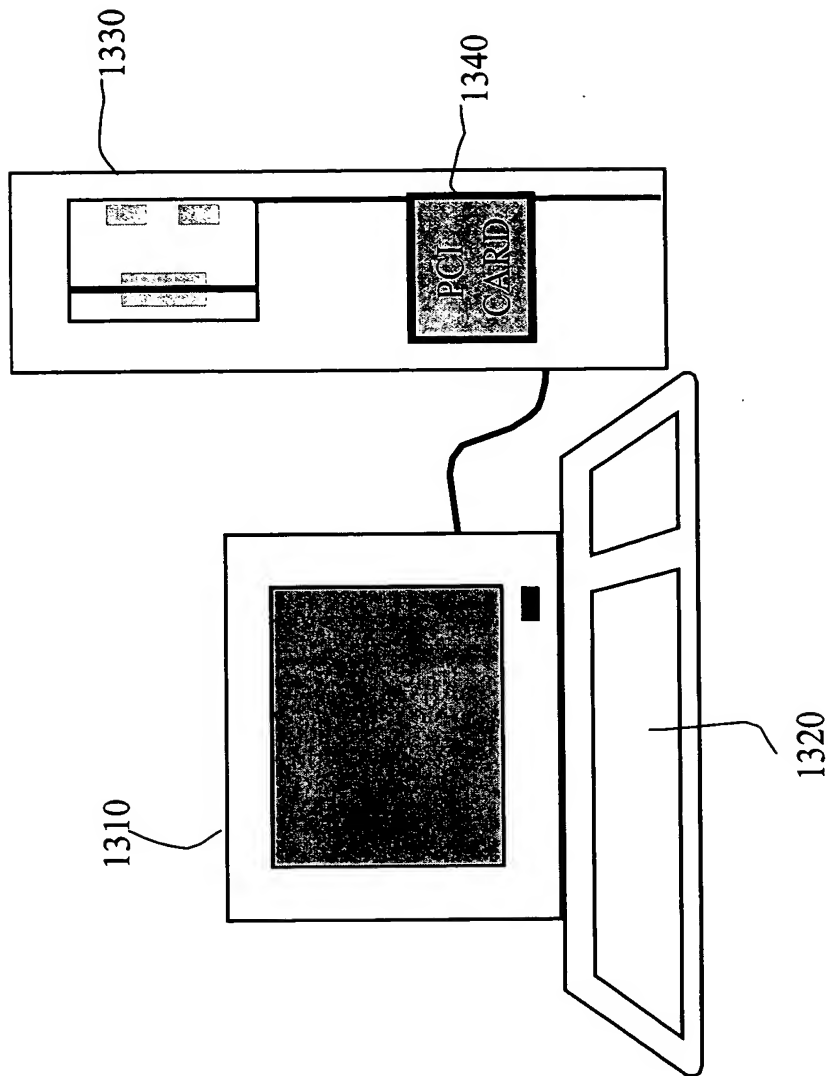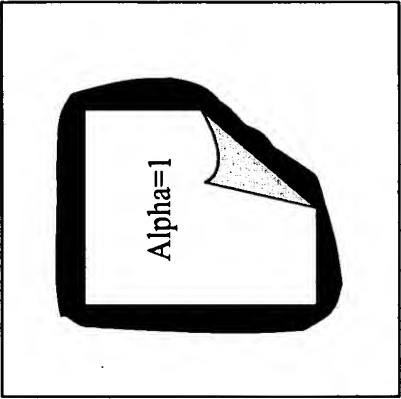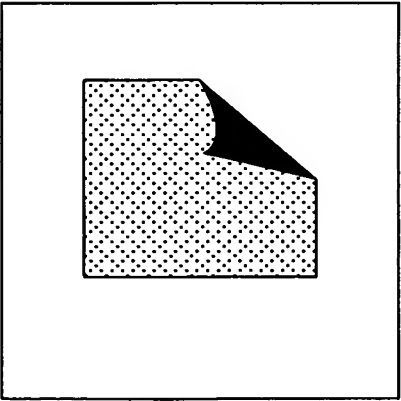
1310
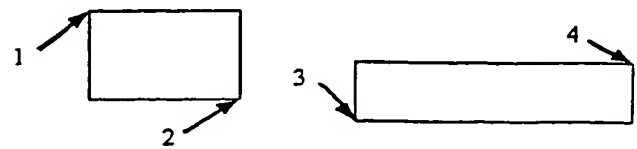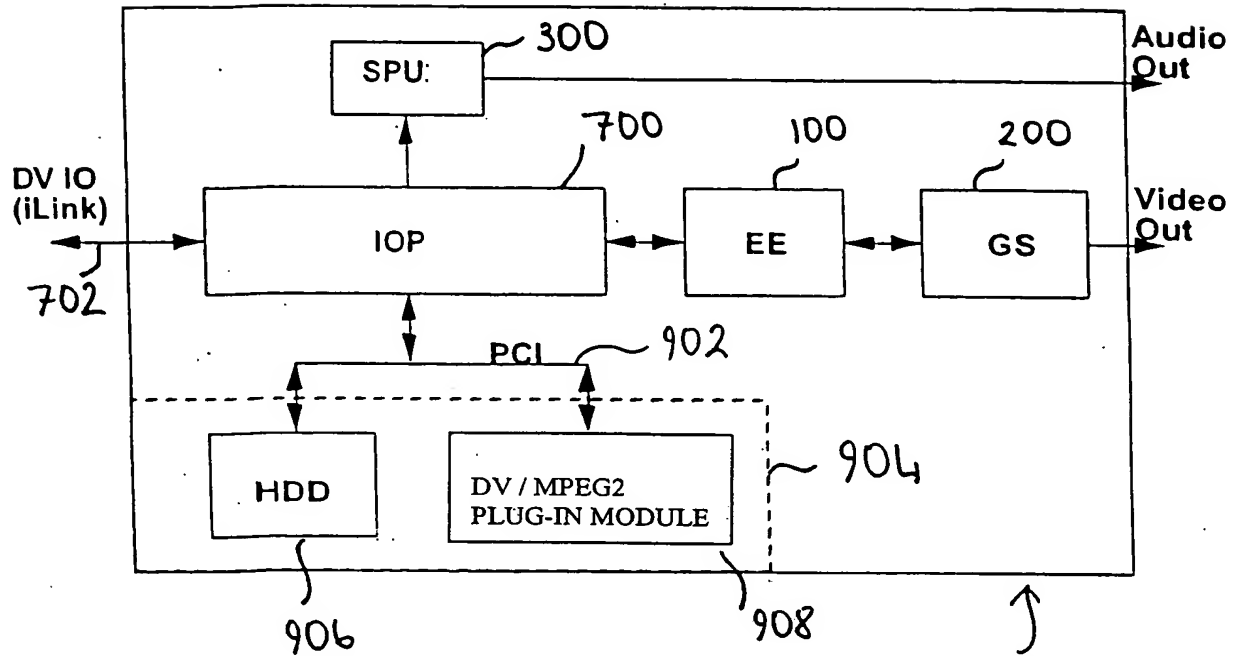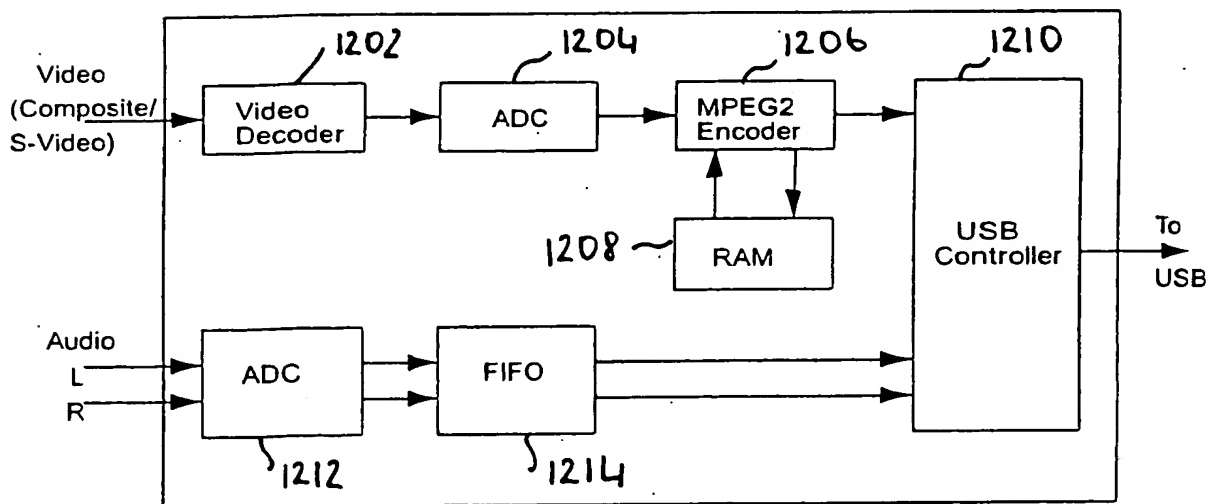
1320

FIGURE 8

IMAGE VERSION 2
Combined image

Alpha=1

FIGURE 9B
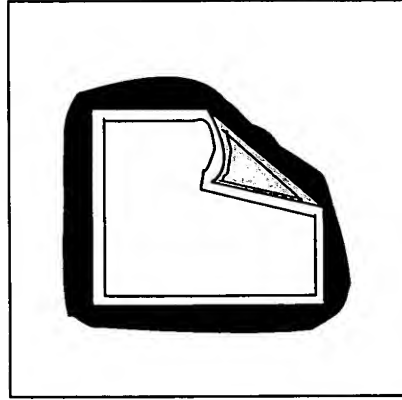
IMAGE VERSION 1

FIGURE 9A

IMAGE VERSION 4

FIGURE 9D

IMAGE VERSION 3
Filtered combined image

1/2 pixel
horizontal
shift

X2
vertically
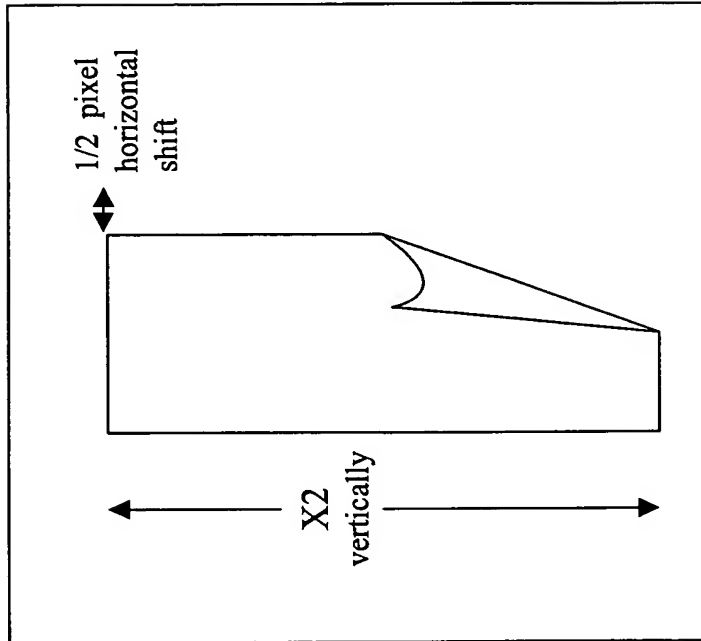
Obtain "Softened" image
Shrink vertically by 1/2
Shift back horizontally by 1/2 pixel

FIGURE 9C

CONSTRUCT A PRIMITIVE PROCESSED
FOREGROUND IMAGE
USING GRAPHICS PRIMITIVES
AND ANTI-ALIAS EDGES OF
ALL GRAPHICS PRIMITIVES

— 1510

CREATE IMAGE 1
CREATE BACKGROUND IMAGE
AND ALPHA MIX WITH PRIMITIVE PROCESSED
FOREGROUND IMAGE

— 1520

CREATE IMAGE 2
REDRAW COMBINED
VERSION OF FOREGROUND IMAGE ON TOP OF
ANTI-ALIASED VERSION
PERIPHERAL REGIONS REMAIN EXPOSED

— 1530

DOUBLE VERTICAL SIZE OF COMBINED IMAGE
SHIFT BY 1/2 PIXEL HORIZONTALLY
TO FORCE INTERPOLATION

— 1540

CREATE "SOFTENED" IMAGE
•SHRINK VERTICALLY BY 1/2
•SHIFT BACK HORIZONTALLY
   BY 1/2 PIXEL

— 1550

REPLACE PERIPHERAL REGIONS
OF IMAGE 2 WITH SOFTENED VERSION OF IMAGE

— 1560

FIGURE 10